U.S. Forest Service

RESEARCH NOTE

CENTRAL STATES FOREST EXPERIMENT STATION
COLUMBUS, OHIO — R. D. LANE, DIRECTOR

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TIMBER VOLUME IN ILLINOIS, 1962

In 1962 Illinois' commercial forest land supported 29.7 million cords of growing stock, including 16.6 million cords or 8.6 billion board feet of saw log material (table 1).

Illinois' growing-stock volume remained about the same from 1948 to 1962 but sawtimber volume decreased 16 percent (table 2). Reduced commercial forest area, higher mortality (especially of elm and red oak), and increased cut of sawtimber account for the decline in sawtimber volume. These factors also would have reduced total growing stock except for large amounts of "ingrowth"--seedlings and saplings that grew into the pole-timber-size class between inventories. Sawtimber volume per acre dropped 12 percent to 2,280 board feet, but growing-stock volume per acre increased from 7.8 to 7.9 cords.

For the sake of convenience the State was divided into three survey units from north to south: the Prairie Unit, the Claypan Unit, and the Southern Unit (fig. 1). The Claypan Unit contained about 40 percent of the State's volume; the Prairie and Southern Units each contained about 30 percent. Although all three Units have lost sawtimber volume since 1948, the loss in the Claypan Unit was only 4 percent, to 3.4 billion board feet. The Claypan's growing-stock volume rose 14 percent, to 11.8 million cords. In the Prairie Unit, growing-stock and sawtimber volumes dropped 22 and 33 percent respectively, to 9.2 million cords and 2.8 billion board feet in 1962. In the Southern Unit, growing-stock volume has remained about the same (8.7 million cords) while sawtimber volume has decreased 6 percent, to 2.4 billion board feet.

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Table 1.--Volume of growing stock and sawtimber on commercial forest land in Illinois, by counties and softwoods and hardwoods, 1962

PRAIRIE UNIT

County	Growing stock (in thousand cords)[1]			Sawtimber (in million board feet)[2]		
	Total	Softwoods[3]	Hardwoods	Total	Softwoods[3]	Hardwoods
Adams	565.3	0.5	564.8	155.13	0.05	155.08
Brown	257.8	.1	257.7	66.63	.02	66.61
Bureau	188.8	--	188.8	53.61	.01	53.60
Carroll	159.9	.1	159.8	46.35	.01	46.34
Cass	241.5	.9	240.6	74.78	.11	74.67
Christian	102.6	.2	102.4	36.66	.02	36.64
Coles	155.8	.1	155.7	42.07	.02	42.05
Edgar	127.6	--	127.6	36.95	.01	36.94
Fulton	664.1	.4	663.7	176.77	.06	176.71
Hancock	404.2	.3	403.9	115.02	.03	114.99
Henderson	228.2	.2	228.0	61.89	.03	61.86
Jo Daviess	433.0	.3	432.7	119.52	.02	119.50
Knox	388.9	.3	388.6	112.86	.03	112.83
LaSalle	179.8	--	179.8	45.46	--	45.46
McDonough	220.8	.3	220.5	61.28	.02	61.26
Marshall	203.4	--	203.4	54.66	.01	54.65
Mason	299.3	.3	299.0	81.24	.04	81.20
Menard	111.5	.1	111.4	36.22	.02	36.20
Mercer	194.7	.2	194.5	55.20	.02	55.18
Morgan	224.9	.2	224.7	61.55	.02	61.53
Ogle	180.0	2.1	177.9	51.17	.10	51.07
Peoria	323.8	.3	323.5	90.20	.02	90.18
Pike	590.4	.4	590.0	153.49	.04	153.45
Putnam	112.3	--	112.3	33.85	.01	33.84
Rock Island	252.8	.2	252.6	73.63	.02	73.61
Sangamon	135.5	--	135.5	54.87	.02	54.85
Schuyler	424.3	.3	424.0	114.84	.04	114.80
Scott	150.0	.1	149.9	42.79	.02	42.77
Tazewell	206.5	.3	206.2	59.27	.03	59.24
Vermilion	206.6	.2	206.4	58.46	.03	58.43
Warren	163.8	--	163.8	48.47	.01	48.46
Whiteside	112.4	--	112.4	30.75	.01	30.74
Woodford	172.8	--	172.8	50.66	.01	50.65
Other Prairie Counties[4]	831.3	2.4	828.9	434.94	.20	434.74
Total	9,214.6	10.8	9,203.8	2,791.24	1.11	2,790.13

1/ Net timber volume of all live merchantable trees 5 inches d.b.h. and larger from stump to a minimum 4-inch top diameter inside bark of the central stem. Does not include limbs or cull tree volume. One standard survey cord is equivalent to 79 cubic feet of solid wood.

2/ Net timber volume of live merchantable sawtimber trees (softwoods 9.0 inches d.b.h. and larger, and hardwoods 11.0 inches d.b.h. and larger) between the stump and a point at which utilization is limited by large branches, forks, or other defects, or by a diameter inside the bark of 8.0 inches. Board feet by the International Log Rule, 1/4-inch kerf.

3/ Softwoods include shortleaf pine, red pine, cypress, and redcedar.

4/ Boone, Champaign, Cook, DeKalb, DeWitt, Douglas, DuPage, Ford, Grundy, Henry, Iroquois, Kane, Kankakee, Kendall, Lake, Lee, Livingston, Logan, McHenry, McLean, Macon, Moultrie, Piatt, Stark, Stephenson, Will, and Winnebago Counties. Low statistical accuracy does not permit presenting volume information for these counties individually. Each of these counties contains less than 100 thousand cords of growing stock.

Table 2.--Changes in Illinois' timber volumes from 1948 to 1962 by species

GROWING STOCK (in thousand cords)

Species	1948[1/]	1962	Percent change
Softwoods	146.8	205.0	+40
White oaks	7,869.6	6,111.2	-22
Red oaks	7,205.1	6,347.1	-12
Elm	3,646.8	2,883.4	-21
Hickory	2,734.2	2,974.8	+ 9
Soft maple	1,891.1	2,249.3	+19
Sycamore	725.3	1,027.6	+42
Cottonwood	644.3	1,139.3	+77
Ash	1,231.7	1,998.9	+62
Sugar maple	698.7	808.9	+16
Basswood, yellow-poplar	449.4	470.9	+ 5
Black walnut	767.1	568.8	-26
Other hardwoods	2,562.0	2,888.6	+13
Total	30,572.1	29,673.8	- 3

SAWTIMBER (in million board feet)

Softwoods	39	28	-28
White oaks	2,968	1,976	-33
Red oaks	2,815	2,090	-26
Elm	1,016	801	-21
Hickory	692	621	-10
Soft maple	630	624	- 1
Sycamore	310	345	+11
Cottonwood	295	452	+53
Ash	270	428	+59
Sugar maple	230	234	+ 2
Basswood, yellow-poplar	178	163	- 8
Black walnut	167	114	-32
Other hardwoods	648	700	+ 8
Total	10,258	8,576	-16

1/ Growing-stock volumes from the 1948 Survey have been adjusted to permit comparison with 1962 Survey data.

Although the volumes of cottonwood and ash, both desirable species, are small, their percent increases were much greater than for any other species.

Red oaks, which account for 6.3 million cords of total growing stock and 2.1 billion board feet of sawtimber volume, have replaced the white oaks as the leading species group. Despite a large decline in oak volume, the oaks still

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CLAYPAN UNIT

County	Growing stock (in thousand cords)[1]			Sawtimber (in million board feet)[2]		
	Total	Softwoods[3]	Hardwoods	Total	Softwoods[3]	Hardwoods
Bond	298.0	0.5	297.5	82.19	0.15	82.04
Calhoun	559.4	1.8	557.6	159.99	.75	159.24
Clark	533.4	.1	533.3	149.07	---	149.07
Clay	390.0	1.7	388.3	122.66	.78	121.88
Clinton	496.9	3.3	493.6	162.15	1.51	160.64
Crawford	398.3	1.3	397.0	117.07	.54	116.53
Cumberland	325.3	1.0	324.3	91.03	.41	90.62
Edwards	193.2	1.0	192.2	58.54	.42	58.12
Effingham	427.6	.5	427.1	111.84	.15	111.69
Fayette	808.0	1.6	806.4	223.55	.69	222.86
Greene	413.8	.7	413.1	114.32	.30	114.02
Jasper	360.5	.1	360.4	89.86	---	89.86
Jefferson	529.1	.6	528.5	144.66	.22	144.44
Jersey	474.8	.6	474.2	131.13	.18	130.95
Lawrence	399.3	1.3	398.0	115.31	.60	114.71
Macoupin	713.5	1.7	711.8	201.87	.72	201.15
Madison	443.2	1.3	441.9	119.76	.25	119.51
Marion	500.9	.5	500.4	127.18	.15	127.03
Monroe	439.6	.7	438.9	124.31	.19	124.12
Montgomery	411.8	1.2	410.6	118.98	.52	118.46
Richland	329.5	1.0	328.5	93.88	.43	93.45
St. Clair	545.7	3.4	542.3	168.56	1.51	167.05
Shelby	532.0	1.3	530.7	146.25	.53	145.72
Wabash	161.8	1.1	160.7	61.89	.52	61.37
Washington	443.0	1.5	441.5	131.45	.70	130.75
Wayne	631.5	2.2	629.3	182.56	.98	181.58
Total	11,760.1	32.0	11,728.1	3,350.06	13.20	3,336.86

SOUTHERN UNIT

Alexander	499.7	3.5	496.2	152.91	0.61	152.30
Franklin	459.3	1.4	457.9	132.65	.54	132.11
Gallatin	483.6	17.3	466.3	146.85	1.75	145.10
Hamilton	465.1	1.9	463.2	127.26	.78	126.48
Hardin	335.9	21.7	314.2	90.73	.70	90.03
Jackson	1,171.5	9.5	1,162.0	327.50	1.80	325.70
Johnson	657.1	2.7	654.4	175.45	.57	174.88
Massac	331.3	2.0	329.3	104.86	.77	104.09
Perry	442.1	2.0	440.1	118.20	.11	118.09
Pope	985.1	73.7	911.4	227.15	2.81	224.34
Pulaski	212.9	1.1	211.8	86.75	.54	86.21
Randolph	696.2	.9	695.3	200.75	.38	200.37
Saline	408.8	18.3	390.5	95.00	.87	94.13
Union	690.1	3.6	686.5	200.89	.42	200.47
White	296.8	1.6	295.2	100.27	.69	99.58
Williamson	563.6	1.0	562.6	147.91	.33	147.58
Total	8,699.1	162.2	8,536.9	2,435.13	13.67	2,421.46

STATE OF ILLINOIS

Total	29,673.8	205.0	29,468.8	8,576.43	27.98	8,548.45

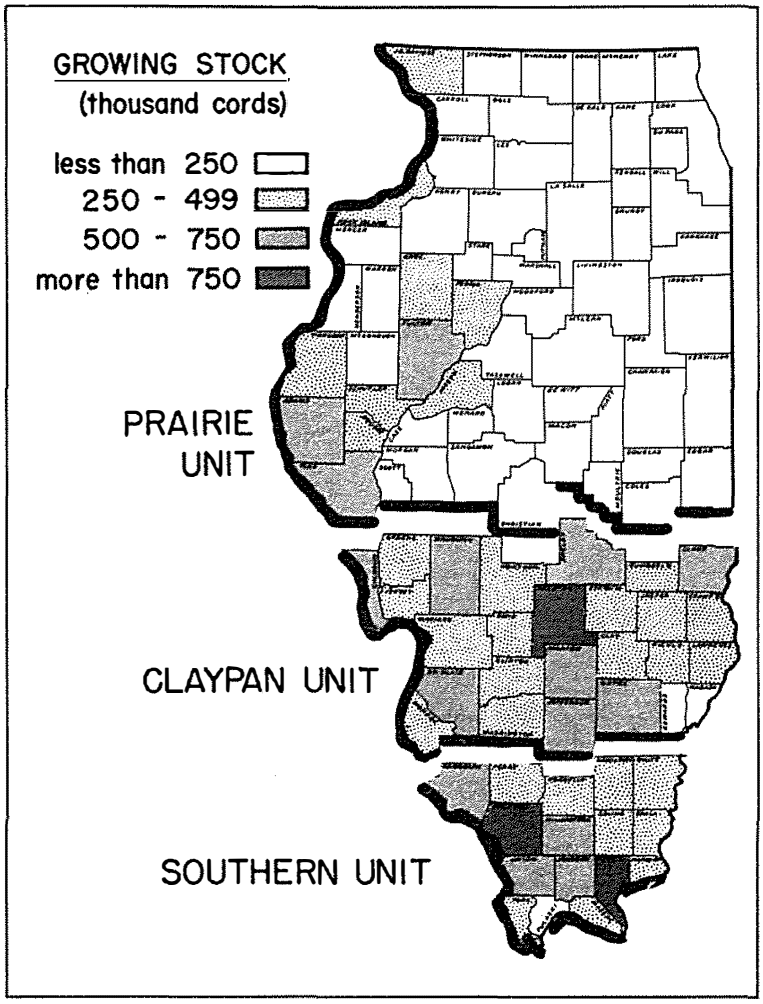

FIGURE 1.--Timber volume in Illinois counties, 1962.

account for 42 percent of Illinois' growing stock and 47 percent of its sawtimber. The volume of black walnut, another valuable species, has also declined.

The large decline in sawtimber volume but small decline in total growing stock means that average tree size in Illinois has decreased. Also, large losses in white oak, red oak, elm, and black walnut combined with large gains in hickory, soft maple, sycamore, cottonwood, and ash indicate a shift in species composition of the forest. Hickory, which has few uses, now ranks third in growing-stock volume.

The forest inventory of Illinois was designed to estimate total volume for the State with less than 5 percent error (one standard deviation) per billion cubic feet. Sampling error is greater for any unit, county, or species group. Very small figures, such as those for softwoods, are of little significance, indicating only the presence of some volume.

This note presents part of the results of the second Forest Survey of Illinois made in 1961 and 1962 by the Forest Service, U.S. Department of Agriculture, with the cooperation of the Agricultural Stabilization and Conservation Service of the same Department, the Forestry Division of the Illinois Department of Conservation, and the Department of Forestry of the University of Illinois. This is the third of three research notes on Illinois' forest resources. The others are U.S. Forest Service Research Note CS-3, "Illinois Produces 122 Million Board Feet of Lumber in 1961," and U.S. Forest Service Research Note CS-21, "Forest Area in Illinois, by Counties, 1962." A more complete statistical report for the State will follow.

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